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Flying Operations

RC/OC/WC/TC-135—OPERATIONS PROCEDURES

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This volume implements AFPD 11-2, *Aircraft Rules and Procedures*; AFPD 11-4, *Aviation Service*; and AFI 11-202 Volume 3, *General Flight Rules*. It establishes the minimum Air Force standards for operations while performing duties in the RC/OC/WC/TC-135. It applies to all RC/OC/WC/TC-135 units and to Air National Guard personnel who operate RC/OC/WC/TC-135 aircraft. It does not apply to Air Force Reserve Command units. MAJCOMs/DRUs/FOAs will forward proposed supplements to this volume to Headquarters (HQ) USAF/A3O-AT through HQ ACC/A3YR for approval prior to publication IAW AFPD 11-2. Copies of MAJCOM/DRU/FOA-level supplements, after approved and published, will be provided by the issuing MAJCOM/DRU/FOA to HQ USAF A3O-AT, HQ ACC/A3YR, and the user MAJCOM/DRU/FOA and NGB offices of primary responsibility. Field units below MAJCOM/DRU/FOA level will forward copies of their supplements to this publication to their parent MAJCOM/DRU/FOA office of primary responsibility for post publication review. **Note:** The terms Direct Reporting Unit (DRU) and Field Operating Agency (FOA) as used in this paragraph refer only to those units that report directly to HQ USAF. Keep supplements current by complying with AFI 33-360, *Publications Management Program*. Ensure that all records created as a result of prescribed processes in this publication are maintained in accordance with Air Force Manual (AFMAN) 33-363, Management of Records, and disposed of in accordance with AF Records Disposition Schedule (RDS) located on the AF Portal at the Air Force Records Information Management System (AFRIMS) link, **https://www.my.af.mil/gcss-af61a/afrims/afrims**/. See paragraph **1.3** in this volume for procedures on how and where to

submit recommended changes to this publication. This volume requires the collection or maintenance of information protected by the Privacy Act of 1974. The authority to collect and maintain the records prescribed in this volume are Title 37 U.S.C. 301a and Executive Order 9397, Numbering System for Federal Accounts Relating to Individual Persons, November 22, 1943 as amended by Executive Order 13478, Amendments to Executive Order 9397 Relating to Federal Agency Use of Social Security Numbers, November 18, 2008. *Incentive Pay*; Public Law 92-204 (*Appropriations Act for 1973*), Section 715; Public Law 93-570 (*Appropriations Act for 1974*); Public Law 93-294 (*Aviation Career Incentive Act of 1974*); DOD Directive 7730.57, *Aviation Career Incentive Act of 1974 and Required Annual Report*; AFI 11-401, *Flight Management.* The Privacy Act System Number F011 AF XO A, Aviation Resource Management Systems (ARMS), applies.

SUMMARY OF CHANGES

This interim change implements new guidelines that clarify requirements for primary aircrew members during flight. Clarifies requirements for minimum crew manning during in-flight operations. Changes the term Mission Essential Ground Personnel (MEGP) to Mission Essential Personal (MEP). Amends orientation flight guidance. Removes the term TCTO 509; identifies squadron commander approval for use of reverse thrust data on OC/WC aircraft and provides clarification on aircraft taxi obstruction clearance to minimum taxiway width requirements. It eliminates redundancy in cold weather procedures, adds requirements for navigator systems cross checks, to note in-flight clearances and to record information to permit accurate reconstruction of the aircraft position through the mission, and provides guidance for RC-135 S aircraft concerning arresting cables during recovery. A margin bar (|) indicates newly revised material.

Chapter 1

GENERAL INFORMATION

1.1. General.

1.1.1. This AFI provides guidelines for RC/OC/WC/TC-135 operations and applies to RC/OC/WC/ TC-135 aircrews and all management levels concerned with operation of the RC/OC/WC/TC-135. The annotation "C-135" applies to RC/OC/WC/TC-135. It is both a compilation of information from aircraft flight manuals, flight information publications (FLIP), and Air Force directives, as well as an original source document for many areas. Basic source directives have precedence in the case of any conflicts, revisions, and matters of interpretation.

1.1.2. HQ ACC/A3 is the agency responsible for the administration for this instruction IAWAFPD 11-2.

1.1.3. Copies will be current and available to planning staffs from headquarters to aircrew level. Transportation and base operations passenger manifesting agencies will also maintain a copy of this AFI.

1.2. Deviations and Waivers. Do not deviate from the policies and guidance in this AFI under normal circumstances, except:

1.2.1. For safety.

1.2.2. When beyond C2 communications capability and it is necessary to protect the crew or aircraft from a situation not covered by this AFI, the aircraft commander has ultimate authority and responsibility for the course of action to be taken. Report all deviations or exceptions without waiver through channels to MAJCOM OPR and OCR.

1.2.3. When a controlling source publication changes, that publication takes precedence until the change is incorporated herein. After a change is made to a controlling source, a change to this AFI will be distributed in a timely manner.

1.2.4. Waiver authority is the MAJCOM/A3, or equivalent, exercising Administrative Control (ADCON) unless delegated lower in this AFI. Waiver requests for training missions under ACC ADCON will be submitted through channels to HQ ACC/A3C. Waivers required for exercises and operational missions involving aircraft from more than one unit or command should be coordinated with other participants to ensure standardization. In all cases, waiver approval and coordination should be published in the operations order (OPORD) or operations plan (OPLAN).

1.3. Revisions. Users of this AFI are encouraged to submit proposed changes through appropriate channels to HQ ACC/A3CR according to AFI 11-215, *Flight Manuals Program (FMP)*. Use AF Form 847, *Recommendation for Change of Publication*.

1.4. Key Words and Definitions. See **Attachment 1** of this volume for additional terms.

Chapter 2

COMMAND AND CONTROL (C2)

2.1. Commander Authority. Combatant Command (COCOM), Operational Control (OPCON), Tactical Control (TACON) and Administrative Control (ADCON) of all C-135 forces are IAW applicable DEPORDs and Joint Publication 1, *Doctrine for the Armed Forces of the United States*.

2.2. Operations Plan 8010 (OPLAN 8010). Commander, U.S. Strategic Command (USSTRATCOM) exercises OPCON of reconnaissance forces generated in support of OPLAN 8010. Commander, TF-204 (Bomber/Reconnaissance) is delegated TACON of the reconnaissance forces generated in support of OPLAN 8010.

2.3. Aircraft Commander Responsibility and Authority. An aircraft commander is designated for all flights on the flight authorizations. Aircraft commanders are:

2.3.1. In command of all persons aboard the aircraft.

2.3.2. Responsible for the welfare of the crew and the safe accomplishment of the mission.

2.3.3. Vested with the authority necessary to manage crew resources to accomplish the mission and will make decisions not specifically assigned to higher authority.

2.3.4. Final authority for requesting or accepting any waivers affecting the crew or mission.

2.3.5. The aircraft commander is responsible for interaction between the aircrew and the C2 agency or the applicable support detachment. Any factor that may affect mission accomplishment, or when transiting a stop without a support agency, the aircraft commander will ensure necessary mission information is placed into the C2 system by the most expeditious means available. The aircraft commander will establish a point of contact with the appropriate C2 agency or support detachment prior to entering crew rest.

2.3.6. If the aircraft commander refuses a mission for safety reasons, the aircraft will not depart until the conditions have been corrected, improved or waived IAW **para 1.2.4** or Chapter 6 A2.1.1.

2.4. C2 Reporting. Aircraft commander will ensure pertinent data, as listed in Chapter 6 of this AFI, is relayed to the appropriate C2 agency by any means available. For a Busy Relay, updated information will normally be provided 2-3 hours from destination.

2.4.1. All HF transmissions should be restricted to operational traffic, i.e. movement reporting, itinerary revisions, maintenance status, flight plan information, etc.

2.4.2. Enroute Reporting: SATCOM (when available) and HF monitoring and reporting will be conducted per applicable operations orders, operations plans, concept of operations, or mission directives.

Chapter 3

CREW COMPLEMENT AND MANAGEMENT

3.1. Aircrew Qualification. Primary crewmembers, or those occupying a primary position during flight, must be qualified or in training for qualification for that crew position. The crewmember must be under the supervision of an instructor or flight examiner if non-current or in training. **EXCEPTIONS:** Senior staff members (pilots only) who have completed the Senior Staff Course (A004) may occupy either pilot seat under direct IP supervision. IAW AFI 11-220, *Reconnaissance Flight Rules and Procedures*, operational sorties must have a qualified mission crewmember on the aircraft for each required crew position. If conducting student training on operational missions, qualified crewmembers must be able to take the student's place and assume their duties in the event of an emergency or operational necessity.

3.1.1. Crewmembers undergoing difference qualification between C-135 variants can credit events for continuation training provided their qualification is current. If the crewmember will not maintain dual-qualification, difference training cannot be credited toward continuation training.

3.1.2. The most qualified crewmembers will occupy crew positions during emergency situations. The Pilot in Command as designated by the Flight Orders will dictate who occupies the crew positions during emergency situations.

3.2. Minimum Crew Manning. The minimum crew required for flight for C-135s is two pilots (at least one of which is an AC, IP, or EP) and a navigator. An instructor pilot with an unqualified pilot enrolled in a formal course of training can satisfy the two-pilot requirement. Augmentation requirements are defined in AFI 11-202V3, ACC Sup1.

3.2.1. Mission Systems Operation In-flight. The minimum crew required to employ the mission system for each C-135 MDS is as follows:

3.2.1.1. Rivet Joint ELINT mission system: 1 Tactical Coordinator (TC) and Airborne Systems Engineer (ASE) 1-4.

3.2.1.2. Rivet Joint Cryptologic mission system: 1 Airborne Mission Supervisor (AMS) and ASE 1-4.

3.2.1.3. Cobra Ball mission system: 1 TC, 1 Raven 1, 1 Raven 3 and ASE 1 and 2.

3.2.1.4. Combat Sent mission system: 1 TC, 1 Manual Raven, 1 Raven 1, 1 Raven 2 and ASE 1-3.

3.2.1.5. Open Skies mission system: 1 Sensor Maintenance Technician (SMT).

3.2.1.6. Constant Phoenix mission system: 2 Specialized Equipment Operators (SEO).

3.2.2. C-135 Employment Minimum Crew.

3.2.2.1. The minimum crew required to employ the mission system will ensure compliance with applicable USSIDS.

3.2.2.2. The minimum crew required to employ the mission system will also be IAW the crew manning letter (CML) requirements. The waiver authority for the CML is the 55 OG/CC, or appropriate EOG/CC or O-6 with EOG/CC authority.

3.2.3. Additional Crewmembers. Additional crewmembers may be added at the discretion of the SQ/DO, or DETCO, to meet mission tasking.

3.3. Mission Essential Personnel (MEP). MEP approval is in accordance with AFI 11-401 and the MAJCOM Supplement.

3.3.1. MEPs may be seated on the flight deck or crew compartment during takeoff and landing with the concurrence of the aircraft commander. MEP personnel must occupy a seat certified for takeoff and landing and wear safety belts/harnesses.

3.4. Crew Rest and Ground Time.

3.4.1. The aircraft commander will determine ground time and crew rest IAW AFI 11-202V3, ACC Sup1, and mission requirements.

3.4.2. Post Deployment Recovery Time. Recovery time is used to recover from the cumulative effects of the mission and tend to personal needs and matters deferred while deployed for extended durations IAW current ACC/A3O Policy.

3.4.2.1. Compensatory time is IAW AFI 36-3003, *Special Pass Regulations*.

3.4.2.2. Recovery and reconstitution (R&R) time is utilized for crewmembers to tend to personal and professional matters. Leave is required if member leaves the local area, as defined by AFI 36-3003.

3.4.2.3. Crewmembers will be given compensatory and R&R days IAW AFI 11-202V3 ACC Sup1, as supplement by AFI 36-3003, COMACCs 12 Apr 2011 POST-DEPLOYMENT DOWNTIME GUIDANCE, and **Table 3.1**

Table 3.1. Compensatory and R&R Days.

DEPLOYMENT LENGTH	COMPENSATORY DAYS	R&R DAYS	TOTAL DAYS
< 6 weeks	**Up to 4**	**0**	**Up to 4**
6 weeks	**4**	**3**	**7**
7 weeks	**4**	**4**	**8**
8 weeks	**4**	**5**	**9**
9 weeks	**4**	**6**	**10**
10 weeks	**4**	**7**	**11**
11 weeks	**4**	**8**	**12**
12 weeks	**4**	**10**	**14**

3.4.2.4. **Waivers**. The SQ/CC or acting representative is designated post deployment recovery time waiver authority.

3.5. Transition Duty Day. Transition duty day period (reference AFI 11-202V3 and applicable MAJCOM supplement) applies only to pilots and navigators.

3.6. Orientation, Incentive and Familiarization Flights.

3.6.1. Orientation, incentive, and familiarization flights will be flown IAW AFI 11-401, *Flight Management* and the MAJCOM supplement. The AC will be responsible for the safe

transportation of the passengers. The AC or designated individual will brief the applicable sections of the passenger briefing guide attachment.

3.6.2. DELETED

3.7. Prohibited Items During Flight Activity.

3.7.1. Reference AFI 11-202V3 for items prohibited for wear during flight activities.

3.7.2. Aircrew may use personal items such as food containers, approved electronic devices, mission materials and reading materials at their duty stations provided their use does not distract them from performing their assigned duties or disrupt either interphone or ATC communications.

3.7.2.1. Aircraft Commanders (ACs) will ensure unobstructed cockpit vision exists at all times. Additionally, they will ensure all flight deck aircrew have a clear view of all flight instrumentation and both pilots have unimpeded access to flight controls.

3.7.2.2. Tactical Coordinators (TCs) and Airborne Mission Supervisors (AMSs) will ensure all recon compartment aircrew have unimpeded access to their duty stations and mission equipment while on watch as required to accomplish mission.

Chapter 4

OPERATING RESTRICTIONS

4.1. Objectives. Final responsibility regarding equipment, systems or flight maneuvers required for a mission rests with the aircraft commander. All units operating C-135 aircraft will comply with the appropriate approved Minimum Equipment List (MEL) found in Chapter 6 of this AFI.

4.2. Policy. This chapter lists the equipment, systems and flight maneuvers considered essential for C-135 missions. The restrictions apply at all times unless specified.

4.2.1. The 55 OG/CC, or appropriate EOG/CC or O-6 with EOG/CC authority, is the waiver authority for these restrictions unless specifically delegated to Squadron/Detachment Commanders:

4.2.1.1. AFI 11-2RC-135 Vol. 3, Maximum Crosswind. Authorize takeoff of aircraft within maximum flight manual limitations.

4.2.1.2. Taxi approval for intended route with an RCR less than 8 reported for the parking ramp, taxiways and runway.

4.2.2. The 55 OG/CC delegates the following waiver authority to Squadron/Detachment Commanders.

4.2.2.1. AFI 11-2RC-135 Vol. 3, Maximum Crosswind. Authorize recovery of aircraft within maximum flight manual limitations.

4.2.2.2. Using headwind advantages to compute takeoff performance.

4.3. Three-Engine Ferry Operations. Three-engine operations during peacetime should only be accomplished after exhausting all other avenues to return an aircraft with an inoperative engine to mission capable status. HQ ACC/A3 must approve three engine ferry sorties.

4.4. Flight Maneuvers. Maneuvers listed in **Table 4.1** are authorized for qualification and continuation training. Maneuvers restricted to the formal training unit (FTU) will only be performed during formal training under direct supervision of a Formal Training Course (FTC) certified instructor. Formal training units include: CTS, CFIC or an air staff approved formal training unit operating with a HQ ACC/A3 approved syllabus for the training being conducted. They are applicable to all mission and series C-135 aircraft, except when prohibited or restricted by the flight manual or other current directives.

Table 4.1. Maneuvers Authorized for Qualification and Continuation Training.

Maneuver	Pos.	WX	Restrictions
Touch-and-Go	IP/AC	Note 3,4,5	Note 2,6,8,9
App. and Landing, Sim. engine out	IP/AC	Note 1,3	Note 2
App. and Go-Around, Sim. engine out (Rudder Power On) RCR N/A	IP/AC	Note 1	
App. and Go-Around, Sim. engine out (Rudder Power Off) RCR N/A	IP/D	Note 1	
Sim. 3-Engine Touch 4-Engine Takeoff	IP/D	Note 1,3	Note 2,6,9
Sim. Engine Failure Takeoff Continued	IP/D	Note 1	Note 7

30 Flap Touch-and-Go	IP/D	Note 3,5	Note 2,6,9
Landing Attitude Demo	IP/D	Note 3	Note 2
Air Refueling Limits	IP/D		
Spoiler/Lateral Control Demo	IP/S		
Trim Demo	IP/S		
No-Airspeed or AOA App. and Landing	FTU		
Low Altitude Go-Around	FTU		
Sim. Jammed Stabilizer	OFT		
Combat Departure	OFT		
Runaway Stabilizer Trim	OFT		
Initial Buffet	OFT		

IP/D – Direct IP supervision is required. (IP must occupy a pilot seat)
IP/S - IP supervision is required.

Notes:

1. Instructor Pilots-day or night. 1000/2 miles or circling minimums for the approach being flown, whichever is higher, with an RCR of 9 or greater. Aircraft commanders-day only. 3000/3 miles with an RCR of 23. Aircraft Commanders may not supervise 3-engine maneuvers.

2. Use a runway of sufficient width and length to permit a safe, normal, full-stop landing.

3. Maximum crosswind component is 15 kts for IP supervised, 10 kts for aircraft commander.

4. Aircraft commander minimums are 1000/3, or published minimums whichever is higher.

5. IP minimums are 200/ ½ mile visibility, 2400 RVR, or published minimums, whichever is higher.

6. Do not accomplish Touch-and-Go landings on slush, ice or snow covered runways, or with an RCR less than 9.

7. Do not retard the throttle on a simulated engine failure after takeoff prior to 200 feet AGL.

8. Aircraft commanders can accomplish (not supervise) Touch and Go landings with any qualified copilot. For a copilot to accomplish Touch and Go landings without an IP, both aircraft commander and copilot must be squadron commander certified.

9. Per T.O. 1C-135(RC)(I)-1 guidance, Touch-and-Go's will NOT be performed in the RC-135U at any time.

4.5. Touch-and-Go and Receiver Air Refueling Supervision.

4.5.1. Aircraft Commander (Non-IP) Supervision of Copilot Maneuvers.

4.5.1.1. Non-instructor aircraft commanders (AC) may supervise unit copilot's touch-and-go landings and receiver air refueling under the following conditions:

4.5.1.1.1. The AC has been certified by the squadron commander to supervise each of these events.

4.5.1.1.2. The copilot has been certified by the squadron commander to perform these events under AC supervision.

4.5.1.1.3. Squadron commander certification is documented in unit Letter of Certifications (Letter of X's).

4.5.2. Copilot Maneuvers While Supervised by a Non-IP Aircraft Commander.

4.5.2.1. An Instructor/Evaluator Pilot must document on a TAPR that the copilot is able to accomplish either/both event(s) to a safe level.

4.5.2.2. The squadron commander must certify the copilot per paragraph 4.5.1.1.3.

4.6. Touch-and-Go Landing Limitations. Touch-and-go landings are prohibited on slush, ice, or snow covered runways. When conditions are "patchy," touch-and-go landings are at the discretion of the 55 OG/CC, or appropriate EOG/CC or O-6 with EOG/CC authority.

4.7. Operating Limitations. Do not practice emergency procedures that degrade aircraft performance or flight control capabilities unless specifically authorized elsewhere in this section.

4.7.1. The AC/IP will alert applicable crewmembers prior to practicing emergency procedures.

4.7.2. In an actual emergency, terminate all training and emergency procedures practice. Training should be resumed only when the pilot in command determines it is safe.

4.7.3. The powered rudder (and the EFAS for RC/TC-135 aircraft) will be on for all takeoffs and landings except for an actual system failure.

4.7.4. Do not simulate failure of two engines in flight while conducting simulated engine out procedures. Do not actually shut an engine down for training.

4.7.5. Maximum crosswind for takeoff and landing during peacetime is 25 knots. RCR may limit this capability.

4.7.6. Practice Emergency or Abnormal Gear and Flap Operation must be accomplished clear of clouds (not applicable when IP is occupying a pilot seat). May be accomplished day or night.

4.8. Performance Requirements.

4.8.1. Departure Performance Planning. Use AFI 11-202v3, AFMAN 11-217v1, this chapter, and the appropriate MAJCOM supplements. During mission planning, the flight crew will determine a gross weight that ensures RC/OC/WC/TC-135 performance will meet or exceed departure requirements. Reference AFMAN 11-217v1 for runway end crossing height requirements. Note: In the event performance capability cannot meet the published climb gradient at the desired gross weight either download fuel, use other applicable methods described below, or delay until more favorable conditions exist.

4.8.2. All Engines Operating (AEO). The RC/OC/WC/TC-135 will meet or exceed the published climb gradient or 200 ft/nm, whichever is higher. Note: If the aircraft cannot meet

the "ATC climb rate" (denoted with a dagger †) pilots must notify ATC that they cannot meet the published gradient.

4.8.3. One Engine Inoperative (OEI). The RC/OC/WC/TC-135 will meet or exceed the published climb gradient or 200 ft/nm, whichever is higher. If this requirement cannot be met other methods that may be used on a case by case basis are described below:

4.8.3.1. Vertically Clear all Obstacles. If aircraft are unable to meet the published climb gradient or 200 ft/nm, whichever is higher, crews may subtract 48 ft/nm from the gradient with operations supervisor approval. Crews are reminded this procedure allows for as little as zero feet of obstacle clearance.

4.8.3.2. Special Departure Procedure (SDP). [NA OC/WC] SDPs are authorized and available for RC/TC-135 aircraft. SDPs are MDS specific, OEI, airfield specific escape procedures intended for emergency use after loss of an engine during takeoff. These may be used for departure planning with Operations Supervisor (or deployed equivalent) approval for missions that are operationally necessary. 55 OG/CC defines operationally necessary as any HHQ sortie or any sortie that originates from KOFF or KLNK. Crews are reminded that SDPs may allow as little as zero feet of obstacle clearance.

4.8.3.2.1. Current RC-135 SDPs can be retrieved from the Jeppesen website at **https://jeppesen.com/index.jsp**. The SDP analysis date is located in the upper left-hand corner of the SDP takeoff performance sheet. PICs must ensure the most current SDP is used. 'Ad Hoc' requests for fields not currently on the watch list may be requested through 55 OG/OGV NLT 72 hours prior to scheduled departure. These 'Ad Hoc' requests are valid as long as they remain on the Jeppesen website.

4.8.3.2.2. Alternatively to the legacy SDP products described in 4.8.3.2.1. aircrew may utilize the Dynamic Runway Analysis (DRA) tool at **https://milplanner.com**. This tool allows planning with specific environmental inputs to narrow planning factors.

4.8.3.3. VFR or VMC Departure. Reference AFI 11-202v3 and appropriate MAJCOM supplement for applicable guidance.

4.8.4. Low Close in Obstacles. Minimum climb gradients do not take into account low, close in obstacles (obstacles or terrain 200' AGL and below within 1NM from DER) which should normally be published as a NOTE on the SID or IFR departure procedure (Trouble T). The PIC will ensure all applicable low close in obstacles along the departure flight path will be safely cleared.

4.8.5. Do not practice traffic pattern operations, instrument approaches, low approaches or go-arounds at gross weights that will not afford a minimum climb gradient of 3.3%. For TF-33 equipped aircraft compute with 3 engines, flaps 30, gear up (gear down for emergency procedures practice). For F-108 equipped aircraft compute the climb gradient using threshold speed minus 10 knots, 3 engines, flaps 30, gear up (gear down for simulated emergency procedures practice), go-around N1 setting, and selected asymmetric N1 setting (between flight idle and max asymmetric N1). Include the effect of the air conditioning systems.

4.9. Traffic Pattern Limitations. The following limitations apply to both Touch-and-Go and full stop landings:

4.9.1. Flap Setting. Do not practice landings with less than 30 degree flaps. 30 degree flap, full stop landings are prohibited except in emergencies that dictate 30 degree flaps as the optimum or only landing configuration. Full stop landings should normally be made with 50 degree flap settings. Careful consideration should be given to runway length, landing distance (including flare and stopping distance), crosswinds, RCR, and other factors influencing the landing ground roll in deciding to land with less than 50 degrees of flaps. For OC/WC/RC/TC-135 aircraft, it is permissible to use up to 95% delayed braking factor when determining 30 flap total landing distance on planned touch and go landings.

4.9.2. Gross Weight. Landing gross weights will not exceed 210,000 pounds for TF-33 equipped aircraft or 220,000 pounds for RC/TC-135 aircraft for normal operation. If mission requirements dictate, and a safe stopping distance exists, the MAJCOM/A3 may authorize landings up to flight manual weight limits.

4.9.3. Multiple Full Stop Landings. Compute brake energy prior to each subsequent takeoff.

4.9.4. Go-Arounds. Initiate a planned go-around not later than 200-foot HAT (does not apply to a landing attitude demonstration).

4.9.5. Limit angle of bank to 30 degrees during traffic pattern operations.

4.10. Prohibited In-flight Maneuvers. In addition to flight manual prohibited maneuvers, the following maneuvers will not be practiced or demonstrated in flight:

4.10.1. Stalls.

4.10.2. Spins.

4.10.3. Dutch roll.

4.10.4. Emergency descent.

4.10.5. Unusual attitudes.

4.10.6. Compound emergencies (except simulated engine-out with rudder power off).

4.10.7. Tactics maneuvers (unless MAJCOM-approved).

4.10.8. Initial buffet.

4.10.9. Turns greater than 45 degree bank (except MAJCOM-approved tactics maneuvers).

4.11. Low Altitude Operations (LAO) (OC/WC/RC-135). The following low altitude procedures are provided in support of Open Skies, Constant Phoenix, and Combat Sent in-flight operational and training missions planned or flown at altitudes below 6000 feet AGL, in addition to T.O. guidance.

4.11.1. Altitude.

4.11.1.1. Overland flights below 3000 ft AGL or over water flights below 1000 ft AGL require 55 OG/CC, or appropriate EOG/CC or O-6 with EOG/CC authority, approval and should be obtained prior to departure for the deployment or mission.

4.11.1.2. RC-135 altitudes are restricted IAW AFTTP 3-1 (class).

4.11.1.3. When the OG/CC has not approved overland flights below 3000' the selected altitude will provide a minimum clearance of 3000 feet from the highest obstruction or terrain within 4 NM of planned course centerline.

4.11.2. All overland LAO flights will be conducted in Day VMC conditions unless the flight is operating on an IFR clearance in controlled airspace.

4.11.3. Weather. Crews will obtain a turbulence forecast for the planned LAO route and, if possible, avoid areas of known/suspected turbulence greater than light.

4.11.3.1. Do not conduct LAO flights in areas of forecast severe turbulence or reported moderate or severe turbulence. If continuous moderate or greater turbulence is encountered, deviate or abort the route as soon as possible.

4.11.3.2. Immediately terminate LAO operations if surface winds exceed 40 knots or when moderate or greater turbulence is experienced. This will avoid the possibility of the aircraft reaching its structural limits caused by wind gust factors.

4.11.3.3. Do not conduct LAO flights in areas of forecast severe icing conditions or in areas of reported moderate or severe icing conditions.

4.11.4. Equipment. The following equipment will be operational during LAO operations:

4.11.4.1. Window heat.

4.11.4.2. Yaw damper system.

4.11.4.3. Cockpit accelerometer.

4.11.4.4. INS able to provide safe corridor navigation (no INS degrades exist).

4.11.4.5. <u>All</u> axis of the autopilot must be operational for training flights and operational LAO beyond the first 12 hrs of the Flight Duty Period.

4.11.4.6. Radar. (When convective activity is forecasted or when flying over land)

4.11.5. There are no duration limits for flights entirely over water. From the beginning of LAO up to 5 hours (6 if augmented), may be over land. Any LAO after that must be over water or above 6000 feet AGL.

4.11.6. Reserve fuel tanks will remain full during LAO unless aircraft gross weight is less than 165,000 lbs.

4.11.7. Aircraft speed during LAO will not exceed 250 KIAS or best endurance airspeed +10 Knots, whichever is greater.

4.11.8. Bird Strike Mitigation. Bird strike potential at low altitude is increased. Consult FLIP, migratory bird publications and local bird activity indicators prior to flight.

4.11.8.1. Consideration should be given to operating the window heat on high setting during LAO to make the windows more pliable in case of bird strike.

4.11.8.2. Report observed hazardous low altitude bird activity to planners during mission debriefing.

4.11.8.3. For flights in areas where local altimeter settings are not available, use the forecast minimum altimeter setting. At level off altitude, match baro altimeter to radar/CARA altimeter and cross-check every 15 min.

Chapter 5

OPERATIONAL

5.1. Checklists.

5.1.1. Momentary hesitations for coordination items, ATC interruptions, and deviations specified in the flight manual, etc., are authorized. Notes amplifying checklist procedures and limitations may be added to the checklists IAW AFI 11-215.

5.1.2. Only insert current approved checklist and information guides in checklist binders. 55 OG/OGV is the approval authority for locally produced guides.

5.1.3. Unit-developed checklists are authorized for mission crewmembers. These checklists will incorporate equipment configuration/operation, crew duties and coordination items as required. They will be used in conjunction with applicable aircraft specific Emergency Procedures Checklists contained in the Technical Orders provided by aircraft manufacturers. 55 OG/OGV will be the final approval authority for all unit-developed checklists IAW AFI 11-215, *Flight Manuals Program*.

5.2. Duty Station. A qualified pilot will be in control of the aircraft at all times during flight. **EXCEPTION:** Senior staff members who have completed the Senior Staff Course or unqualified pilots undergoing qualification training (under the supervision of an FTC-approved instructor). All crewmembers will be at their duty station or in an approved seat during all takeoffs, departures, air refueling (AR), approaches and landings. During other phases of flight, crewmembers may leave their duty station for brief periods of time. The IP seat should be occupied to assist the crew in avoiding other aircraft during takeoff, departure, low level, penetration, approaches and landings when additional aircrew personnel are aboard. Crewmembers will notify the crew area commander (e.g. AC, TC, or AMS as applicable) prior to departing assigned primary duty stations.

5.3. Flight Deck Entry. Aircraft commanders may authorize passengers and observers access to the flight deck during takeoff, climb, air refueling, descent and landing only if seats with seat belts are available. Passengers will not be permitted access to the pilot or copilot position. During takeoff and landing, observers will be seated in a seat approved for use in takeoff and landing with appropriate safety belts and shoulder harnesses fastened.

5.4. Takeoff and Landing Policy. The pilot flying must be current and qualified for the maneuver being flown or under direct IP supervision if regaining currency or undergoing upgrade qualification training.

5.5. Seat Belts.

5.5.1. Crewmembers occupying the pilot, copilot, navigator, or additional crewmember positions will have seat belts fastened at all times in accordance with T.O. procedures unless crew duties dictate otherwise.

5.5.2. All crewmembers will be seated with seat belts and shoulder harnesses fastened during takeoff and landing. For taxi and AR operations, all aircrew members should (passengers will) be seated with seatbelts fastened, unless crew duties dictate otherwise. Crewmembers performing instructor or flight examiner duties are exempt from seat belt

requirements during non-critical phases of flight; however, a seat with an operable seat belt will be assigned and should be used unless it would interfere with performance of duties.

5.6. Communications Policy.

5.6.1. Aircraft Interphone.

5.6.1.1. Limit transmissions to those essential for crew coordination during all critical phases of flight.

5.6.1.2. Do not discuss classified information on interphone if uncleared personnel are on interphone.

5.6.2. Command Radios.

5.6.2.1. The pilot not flying the aircraft normally makes all ARTCC radio calls.

5.6.2.2. In terminal areas the pilot, copilot, and navigator, will monitor the primary command (ATC) radio unless directed otherwise. The navigator or designated crewmember should monitor C2 frequencies on the inbound and outbound leg, during takeoff, climb-out, air refueling, descent, approach, landing and traffic pattern operations, unless otherwise directed.

5.6.2.3. Both pilots will monitor UHF Guard (VHF Guard when appropriate) frequency regardless of primary radio. The navigator should monitor Guard during receiver AR and at discretion during other times. Pilots normally will not monitor GUARD during receiver aerial refueling.

5.6.3. UNILINK.

5.6.3.1. For local trainers and busy relays, the crew will enable the AUTO POSITION REPORTING function during preflight to ensure messages sent from the ground reach the aircraft in a timely manner. AUTO POSITION will be turned off during operational sorties or any sortie where the aircraft position is sensitive.

5.6.3.2. The aircraft commander may authorize usage of the Universal Data Desk for valid operational needs. Crews should consider other means of communication before utilizing this function. Crews will not transmit sensitive or classified information via UNILINK clear text. Crews may transmit USKAK-72 encrypted text as a last resort, but should understand that the aircraft identification and position will be revealed. Crews will use the ELT/VDL switch included with the FORCE modification to disconnect UNILINK from the antenna (which disables it's transmit and receive capability) whenever the aircraft position would be classified. If the aircraft has not had the FORCE modification the crews will pull the UNILINK PROCESSOR circuit breaker (MCBP/V9) whenever the aircraft position would be classified. Crews should then reconnect via the ELT/VDL switch or reset the circuit breaker when aircraft position is no longer sensitive.

5.6.3.3. Aircraft commanders will ensure the UNILINK Email function is only used for official purposes.

5.6.3.4. Crews may use the weather retrieval functions of UNILINK without restriction in non-sensitive environments. Consider OPSEC issues before submitting a weather request for a particular station.

5.7. Runway, Taxiway, and Airfield Requirements. Minimum runway requirements for C-135 aircraft are 8,000' length and 147' width. Minimum taxiway width for RC/TC/WC-135 is 74'. OC-135 minimum taxiway width is 50'.

5.7.1. Landing distance will be computed based on actual aircraft configuration and runway conditions and will include flare distance and ground roll. C-135 aircraft will normally use 80% delayed braking factor. Aircraft commanders may elect to use up to 90% delayed braking factor as an exception on a case by case basis if operationally necessary for full stop landings. 55 OG/CC, or appropriate EOG/CC or O-6 with EOG/CC authority, approval is required for full-stop landings planned with greater than 90% delayed braking factor. 55 OG/CC, or appropriate EOG/CC or O-6 with EOG/CC authority can delegate this waiver authority to the SQ/CC, DETCO on a case-by-case basis or for the duration of a deployment

5.7.1.1. Squadron commander approval is required to use reverse thrust data when calculating TOLD.

5.7.2. Takeoffs will normally be initiated from the beginning of the approved usable portion of the runway. Takeoff and landing data (TOLD) will be based on the actual runway remaining from the point at which the takeoff is initiated when less than the entire runway is used. The decision to make intersection takeoffs rests solely with the aircraft commander.

5.7.2.1. Squadron commander approval is required to use reverse thrust data when calculating TOLD.

5.7.3. Operational missions using runways with grooved or porous surfaces are authorized to use an RCR 15 to compute critical field length, critical engine failure speed and refusal speed when the runway RCR is reported as wet. Other takeoff speeds will be computed using current flight manual procedures and comply with any limitations imposed by supplementing command regulations. Present flight manual procedures for computing takeoff data with a reported RCR, other than "wet runway," or RSC (ice, snow, and slush) are valid and remain unchanged. This special procedure does not apply to landing data computations.

5.8. Aircraft Taxi Obstruction Clearance and Takeoff Criteria.

5.8.1. The aircraft commander should use marshallers and wing walkers or deplaned crewmembers to act as observers while maneuvering on taxiways with less width than specified in **para 5.7** of this instruction.

5.8.2. Intersection takeoffs may be accomplished provided the operating environment (i.e. gross weight, obstructions, climb criteria, weather, etc.) will allow a safe takeoff and departure using reduced thrust procedures.

5.8.3. Takeoff will not be made with RCR less than 4.

5.9. Fuel Reserves and Alternate Airport Requirements.

5.9.1. Fuel Requirements. Plan all missions to arrive overhead destination or worst case alternate fix with no less than 15,000 pounds fuel reserve, or in accordance with AFI 11-202V3, whichever is greater.

5.9.2. Minimum landing fuel is 12,000 pounds. If it becomes apparent the aircraft will land with 12,000 pounds of fuel remaining or less, declare "Minimum Fuel" and land short of destination; or divert as required.

5.9.3. Emergency landing fuel is 10,000 pounds.

5.9.4. Additional divert base information can be found in Chapter 6 and the Inflight Guide.

5.10. Fuel Jettisoning. No prior approval is required for fuel jettisoning during an aircraft emergency when immediate reduction of gross weight is a critical factor in safely recovering aircraft/personnel. If possible, record altitude, position and winds aloft. When the situation permits, notify the controlling agency of actions and location of fuel jettisoning.

5.10.1. Record all pertinent data to include flight conditions, altitude, airspeed, air temperature, wind direction and velocity, type and amount of fuel, aircraft type and position at time of jettison, time and duration of jettison activity, and reason jettison was accomplished. ***Note:*** Unit commanders will retain the information in paragraph **5.10.1** for 6 months as documentation in the event of claim against the government resulting from fuel jettison.

5.10.2. Aircraft commanders will obtain SQ/CC or DETCO approval for fuel jettison when immediate reduction of gross weight is not required.

5.11. Autopilot Failure. With any axis of the autopilot inoperative, the crew duty period is restricted to 12 hours un-augmented or 16 hours augmented. The 55 OG/CC, or appropriate EOG/CC or O-6 with EOG/CC authority, is the waiver authority.

5.12. Adverse Weather. Do not fly in reported severe icing conditions. If inadvertently encountered, the pilot will immediately depart such conditions. Icing severely degrades the flight capability of the aircraft. However, should operational missions dictate, short climbs or descents through areas of forecast severe and/or reported moderate icing are permitted solely at the aircraft commander's discretion; however, sustained flight in these conditions is prohibited. The following will mitigate exposure to thunderstorm hazards when operating in the vicinity of an aerodrome in an area where thunderstorms are occurring or are forecast. Aircrews will:

5.12.1. Try to maintain VMC.

5.12.2. Maintain at least a 5 NM separation from heavy rain showers.

5.12.3. Not takeoff or land under conditions of freezing rain or freezing drizzle or when thunderstorms are producing hazardous conditions (such as hail, strong winds, gust fronts, heavy rain, wind shear, or microbursts).

5.12.4. Avoid areas of high lightning potential, i.e. clouds within plus or minus 5000 feet of the freezing level.

5.13. Cold Weather.

5.13.1. During cold weather conditions, the SQ/CC or DETCO will determine the duration of aircrew exposure. When the ambient temperature drops below -50F, the SQ/CC or DETCO should consider recommending cancellation of flight activity to the C2 authority.

5.13.2. DELETED

5.14. Pre-Flight.

5.14.1. AFTO Form 781, *AFORMS--Aircrew/Mission Flight Data Document*. The exceptional release must be signed before flight. Ensure that the Air Force fuel identaplate is aboard the aircraft.

5.14.2. Crewmembers may perform aircraft servicing duties when qualified maintenance support is not available. Crewmembers may augment maintenance refueling teams at en route stops.

5.14.3. The aircraft commander will ensure aircrews that turn aircraft without qualified maintenance specialist assistance comply with the appropriate maintenance T.O. In addition, the aircraft commander will enter a red dash symbol in the Form 781H, updating current status, and enter a red dash symbol in a discrepancy that reflects that the applicable maintenance inspection (i.e. preflight, through-flight, basic post-flight) is overdue.

5.15. Departure.

5.15.1. Mission departures are considered on time if the aircraft is airborne within plus or minus 30 minutes of scheduled takeoff time.

5.15.2. Scheduled takeoff time may be adjusted as necessary to meet the rendezvous time. Notify scheduling and controlling agency of any deviations affecting the control time.

5.16. Navigation.

5.16.1. The navigator is responsible for positional awareness at all times unless the pilots assume responsibility for navigation.

5.16.2. Systems Cross Check. A systems cross check will be made as soon as practical after initial level-off. Systems cross checks are required, will normally not exceed 30 minutes throughout the flight and will be recorded.

5.16.2.1. At a minimum, the navigator will compare the heading, position, and groundspeed of all applicable navigation equipment.

5.16.2.1.1. Navigators should use a range and bearing from a known radar target to further confirm systems accuracy.

5.16.2.2. If the cross check is accomplished at a planned turn point, and there are no discrepancies between the navigation systems and the Form 200, the systems cross check may be recorded by annotating the ATA on the Form 200.

5.16.2.3. If the cross check is not accomplished at a planned turn point, the navigator will record the heading, position, groundspeed, and time of the position crosscheck on a station stamp or Form 200.

5.16.2.4. Any discrepancy per RC/OC/WC/TC-135 (I)-1 tolerances, will be resolved by taking a radar fix, if available.

5.16.2.5. The navigator will record any information not previously planned/briefed, i.e. weather deviation, mission profile change, etc, to permit accurate reconstruction of the aircraft position through the mission.

5.16.3. Verify system accuracy prior to coupling the autopilot to any navigation computer system.

5.16.4. The navigator will track all in-flight clearances.

5.16.5. Navigation Symbols. Use standard symbols IAW AFPAM 11-216, *Air Navigation.*

5.16.6. At AC discretion, crews may fly with a laptop capable of providing a moving map display, from an approved GPS source and must be approved for unrestricted use IAW AFI 11-202V3, Chapter 5.

5.16.7. Minimum Navigation Performance Specification (MNPS) Operations. Operations within the North Atlantic area's MNPS airspace, Canadian minimum navigation performance specifications (CMNPS), or selected Pacific routes are designed for INS-autopilot coupled operation. (See FLIP AP/2, Chapter 5, and AFI 11-202V3, paragraph 2.16.5.) When not engaged in AR operations, aircrews will adhere to this procedure.

5.16.8. Required Navigation Performance Area Navigation (RNP RNAV) Airspace.

5.16.8.1. RNP-10. Compliance includes navigation accuracy within 10NM of actual position 95% of the time. The TC/RC-135 is approved for RNP-10 operations.

5.16.8.2. RNP-5/Basic Area Navigation (BRNAV) Airspace. Basic Area Navigation (BRNAV) navigation accuracy criteria is RNP-5. The TC/RC-135 is approved for RNP-5/BRNAV operations.

5.16.8.3. Minimum equipment to operate in RNP-10/RNP-5/BRNAV airspace is a LN-120 with at least stellar updates or one FMS with GPS. Flights entering RNP-5 airspace after a long overwater flight must be especially aware of tighter tolerances and update accordingly.

5.16.8.4. Aircraft unable to maintain RNP/BRNAV tolerances must advise ATC immediately and take appropriate coordinated action.

5.16.9. Reduced Vertical Separation Minimum (RVSM) Airspace. Airspace where RVSM is applied is considered special qualification airspace. Both the aircrew and the specific aircraft must be approved for operations in these areas. Refer to FLIP GP and the following guidance for RVSM requirements.

5.16.9.1. The RC/TC-135 is approved for unrestricted RVSM operation and requires the following:

5.16.9.1.1. Two independent certified altitude measurement systems supplied by independent pressure sources.

5.16.9.1.2. One automatic altitude keeping device (autopilot with operational altitude hold function).

5.16.9.1.3. One altitude alerter.

5.16.9.1.4. A fully operable IFF transponder

5.16.9.2. See FLIGHT DISPLAYS/INSTRUMENTS in Section III of applicable T.O. if there is a malfunction of any of these systems. Should any RVSM equipment fail prior to or after entering RVSM airspace advise ATC and request a new clearance.

5.16.9.3. It is the MAJCOM's responsibility to maintain the specific aircraft certification.

5.16.10. Document (in the aircraft forms) malfunctions or failures of MNPS, RVSM or RNP/BRNAV required equipment.

5.16.11. RC/TC-135 CNS/ATM (Communications Navigation Surveillance / Air Traffic Management) and Safety Compliance.

5.16.11.1. CNS/ATM is an umbrella term used to describe the emerging technologies and architecture of space and ground based systems designed to enhance air traffic system capacity, flight efficiency, and both ground and cockpit situational awareness while continuing to meet flight safety standards. During mission planning, aircrews should familiarize themselves with the CNS/ATM requirements of the airspace that they plan to operate in.

5.16.11.2. Some CNS/ATM initiatives require aircrew training in addition to aircraft certification.

5.16.11.3. Malfunctioning equipment that reduces the aircrew's capability to comply with CNS/ATM requirements of a particular airspace may prevent entering and/or continuing operation in the airspace.

5.16.11.4. RC/TC-135 aircraft comply with the following functional and performance criteria for the communication, lateral and vertical navigation, surveillance, and safety requirements of appropriate FAA Advisory Circulars (AC) and Technical Standard Orders (TSO), ICAO standards, and Air Force Instructions or provide an equivalent level of safety and performance.

5.16.11.5. Communications.

5.16.11.5.1. VHF voice radios are 8.33 kHz channel spacing compliant.

5.16.11.5.2. VHF-NAV (VOR/ILS) navigation and VHF voice radios are FM Immunity (FMI) compliant.

5.16.11.5.3. HF voice radios are compliant with USAF over water requirements.

5.16.11.6. Lateral Navigation (FMS).

5.16.11.6.1. Each Flight Management System (FMS) complies with the requirements for U.S. RNAV (Area Navigation) System operations (RNAV Departures (RNAV 1), RNAV routes (RNAV 2), RNAV STARS (RNAV 1), and RNAV (GPS) approaches including RNAV substitution of legacy equipment procedures. The FMSs are cleared for RNAV Point-to-Point and worldwide RNP-5/RNP-10/BRNAV (Required Navigation Performance/ European Basic Area Navigation)/PRNAV operations without time limitations with properly operating GPS.

5.16.11.6.2. While the FMSs meet the navigational performance required for RNP-4 operations, the RC/TC-135 does not meet the communications (CPDLC) or surveillance (ADS-B) requirements for RNP-4.

5.16.11.6.3. For RNP and RNAV compliance the EFIS/FMS CDU should not display any of the following: GPS INTEGRITY, GPS#X NOT NAV, GPS#X FAILED, GPS#X DESELECT.

5.16.11.6.4. For RNP and RNAV compliance, if any GPS satellites will be out of service during the flight, the crew should conduct RAIM predictions prior to flight. Any satellites which will be out of service during the flight should be excluded from

RAIM predictions. A gap in preflight RAIM prediction of up to 5 minutes is acceptable.

5.16.11.6.5. For RNAV terminal area procedures including RNAV substitution of legacy equipment procedures (NDB, VOR) the procedure must be retrieved in its entirety from the aircraft database and the database must be current. The FMS Navigation Database is a commercial database provided by Jeppesen.

5.16.11.6.6. For RNAV 1 or RNAV 2 operations, FMS guidance must be used and the aircrew should verify the FMS is set to the appropriate RNP. Use of the autopilot or flight director are required for RNAV 1 operations (ODPs, SIDS & STARS) and recommended for RNAV 2 operations.

5.16.11.7. Lateral Navigation (LN-20).

5.16.11.7.1. For degraded systems operations refer to aircraft Technical Orders for aircraft RNP airspace performance.

5.16.11.7.2. The crew should notify ATC of conditions (equipment failure and weather conditions) that may affect the ability of the aircraft to maintain position with the designated RNP airspace.

5.16.11.8. Navigation Databases.

5.16.11.8.1. Two separate navigational databases (DAFIF and Jeppesen) are used in the TC/RC-135. These navigation databases are updated on a 28-day cycle.

5.16.11.8.2. Flight Plans are created from flight planning software using navigation data from the Digital Aeronautical Flight Information File (DAFIF). These flight plans maybe saved to a portable storage medium. Crewmembers are responsible for ensuring the accuracy of flight plan waypoints against current aeronautical charts, terminal instrument procedures, or FLIP documents. The crew must also resolve any discrepancies between the DAFIF and the FMS databases.

5.16.11.8.3. The FMS Navigation Database is provided by a commercial vendor, Jeppesen. The current and next databases are stored in each FMS. When a terminal area procedure (departure procedure, STAR, instrument approach procedure) will be flown using FMS as the sole source of navigation information, the procedure to be flown must be retrieved in its entirety from the aircraft database and the database must be current.

5.16.11.8.4. Both the DAFIF and Jeppesen databases are based on the WGS-84 coordinate system. FMS approaches should not be flown in areas of the world that do not conform to the WGS-84 coordinate system (or equivalent).

5.16.11.9. Vertical Navigation (VNAV).

5.16.11.9.1. The FMSs meet the requirements for VFR/IFR enroute, terminal area and approach VNAV operation WORLDWIDE. The VNAV function provides deviation from the vertical path only and is not coupled to the autopilot. The lowest allowable approach minima on RNAV approaches is LNAV/VNAV DA due to the certified VNAV functionality to use LNAV/VNAV minimums. All RC/TC¬135 aircraft are certified to fly approaches to LNAV/VNAV minimums using the

"pseudo¬glideslope" displayed on the ADI. LNAV/VNAV will be flown to a DA (Decision Altitude). LNAV approaches only requires lateral navigation and will be flown to an MDA (Minimum Descent Altitude). The requirement for Wide-Area Augmentation System (WAAS) support to use LPV minimums is met only on the WC-135 and future RC-135 aircraft with Baseline Bravo (BL-B) avionic packages. See Advisory Circular (AC) 90-100A for further information.

Table 5.1. RC/OC/WC/TC-135 CNS/ATM Operational Approvals.

Airspace / Equipment Type	Certified	Operational Approval	Pilot Training Required	Notes
FM Immunity	Yes	Yes	No	
8.33 Radios	Yes	Yes	No	
Elementary Mode S	Yes	Yes	No	
Enhanced Mode S	Yes	Yes	No	
TCAS Version 7	Yes	Yes	No	
RNAV 1 (SIDS & STARS)	Yes	Yes	Yes	Training incorporated into initial qualification training.
RNAV 2 (GPS enroute)	Yes	Yes	Yes	Training incorporated into initial qualification training
RVSM	Yes	Yes	Yes	Training incorporated into initial qualification training
RNP 10	Yes	Yes	No	
RNP 5	Yes	Yes	No	
B-RNAV	Yes	Yes	No	
P-RNAV	Yes	Yes	No	
MNPS	Yes	Yes	No	
RNAV (GPS) Approaches	Yes	Yes	Yes	Certified & Approved to RNP 0.3. Less than RNP 0.3 requires RNAV (RNP) certification and SAAAR approval. C-135 aircraft and aircrews currently do not have these certifications and approvals. GPS approach training incorporated into initial qualification
RNAV (RNP) Approaches	No	No	N/A	C-135 aircraft & aircrew not SAAAR qualified
LNAV/VNAV	Yes	Yes	No	
LPV	Yes*	Yes*	No	* Currently only WC-135 certified. BL-B front end modifications will provide LPV capability in the future

				through WAAS.

5.16.11.9.2. Barometric vertical navigation is temperature compensated.

5.16.11.10. Surveillance.

5.16.11.10.1. The RC/TC-135 transponder is compliant with Mode S (Select) Elementary Surveillance (ELS) and Enhanced Surveillance (EHS) and Traffic Alert and Collision Avoidance System II (TCAS II) version 7.0 requirements.

5.16.11.10.2. Mode S establishes selective and addressed interrogations with aircraft within its coverage. Such selective ATC interrogations improve the quality and integrity of detection, identification and altitude reporting. These improvements translate into benefits in terms of safety, capacity and efficiency.

5.16.11.10.3. Mode S (ELS) transmits a 24 bit aircraft address, SSR Mode 3/A, Altitude in 25ft increments, Flight status (airborne or ground), data link capability, Ground Initiated Comm capability report, Aircraft ID, and TCAS capability. Crews will ensure that the 8 character (24 bit) Mode S address, SEE AIRPLANE MODE S OCTAL AND DATALINK CODING, page v., and the Aircraft ID (Call Sign) are correctly loaded in the IFF/SIF transponder during flight.

5.16.11.10.4. Mode S (EHS) transmits an additional 8 downlink aircraft parameters (DAPs): selected altitude, roll angle, track angle rate, true track angle, ground speed, magnetic heading, indicated airspeed, and vertical rate.

5.16.11.11. Safety.

5.16.11.11.1. The Mode S address may be changed for operational purposes if directed by higher authority. Mode S is a civilian air traffic management system. Though military application may enhance OPSEC, ensure that the selected address does not interfere with air traffic management systems. Do not attempt to enter false aircraft data/parameters into the system or otherwise spoof the air traffic management system because this may create a safety hazard.

5.16.11.11.2. The Terrain Awareness Warning System (TAWS) meets Forward-Looking Terrain-Avoidance (FLTA), Premature Decent Alert (PDA) and Ground Proximity Warning (GPWS Modes 1-6) requirements.

5.16.11.11.3. The dual Aircraft Performance Computers (APCs) meet Windshear Caution and Warning requirements.

5.16.11.11.4. The Emergency Avionics System (EAS) or 406 MHz ELT and FDR/CVR meets Emergency Locator Transmitter (ELT) and Flight Data Recorder (FDR) requirements.

5.17. Insect and Pest Control.

5.17.1. Aircraft commanders will ensure required pest control is accomplished according to AFJI 48-104, *Quarantine Regulations of the Armed Forces*; DOD 4500.54-G, *DOD Foreign Clearance Guide (FCG)*; or as directed by higher headquarters. Certify the spraying on Customs Form 7507 or on forms provided by the host country.

5.17.2. When seeing any insect or rodent infestation of the aircraft inflight, notify the destination command and control agency, base operations, or airport manager of the situation before landing so the proper authorities can meet the aircraft.

5.17.3. On arrival, open cargo doors or hatches to allow entry of officials required to inspect the aircraft for insect or rodent infestation or to de-plane the minimum number of crewmembers required to chock the aircraft. Do not load or unload cargo or passengers until the inspection is completed. This procedure may be altered to satisfy mission or local requirements.

5.18. Arresting Cables. (Does not include recessed cables)

5.18.1. RC-135 aircraft will ensure all barriers and cables are removed prior to recovery. Do not land on approach end arresting cables. If the aircraft lands before the cable, the crew should contact the tower to have the cable inspected.

5.18.2. If time or operational constraints dictate, the aircraft commander may taxi over approach end cables and use the remaining runway for takeoff provided the departure end cables have been removed and the AC recalculates TOLD using actual distance remaining.

5.19. Alert. Alert procedures will be initiated by the applicable squadron commander or DETCO, when mission requirements require a quick response to HHQ taskings. The applicable squadron commander is the waiver/modification authority for C-135 alert procedures.

5.19.1. ALPHA Alert. Aircrew is capable of launching within one (1) hour of crew notification. Crews should be quartered near the alert aircraft with sufficient transportation to launch in accordance with mission timing. Crew members are given 12-hours of pre-alert crew rest. A crew will not stay on ALPHA alert duty for more than 48 hours. After 48 hours, the crew must be launched, released, or entered into pre-departure crew rest. Crew duty begins when the AC is notified of the launch order.

5.19.2. BRAVO Alert. Aircrew is capable of launching within four (4) hours of crew notification. Crew members are given 12-hours of pre-alert crew rest. After crew rest, they are placed on telephone standby. A crew will not stay on BRAVO alert duty for more than 48 hours. After 48 hours, the crew must be launched, released, or entered into pre-departure crew rest. Crew duty begins when the AC is alerted for duty.

Chapter 6

LOCAL SUPPLEMENT

6.1. General. This supplement will be distributed to MAJCOM/NAF OPRs, as applicable. This supplement should not duplicate and will not be less restrictive than the provisions of this or any other publications without prior authorization from the appropriate MAJCOM/NAF OPR.

Chapter 7

C-135--AIRCRAFT SECURITY

7.1. General. This chapter provides guidance on aircraft security and preventing and resisting aircraft piracy (hijacking) of C-135 aircraft. AFI 13-207, *Preventing and Resisting Aircraft Piracy (Hijacking)*; AFI 31-101, *Air Force Physical Security Program*; and specific MAJCOM security publications contain additional guidance. Aircrews will not release information concerning hijacking attempts or identify armed aircrew members or missions to the public.

7.2. Security. The RC/WC-135 is designated a security protection level 2 (or equivalent) resource when on alert as the result of EWO/OPLAN 8010 tasking, when deployed OCONUS, or when SCI configured. It is a protection level 3 (or equivalent) resource at all other times. The OC-135 is a protection level 3 when operational. It is a protection level 4 when used for training or in depot status (reference AFI 31-101, ACC Sup). The TC-135 is not addressed in the 31-101, but should be treated as a protection level 3 at all times. Aircraft security at non-US military installations is the responsibility of the controlling agency. At contractor facilities, the RC/WC-135 must receive the same level of security required for protection level 2 (or equivalent) resources under AF control (reference AFI 31-101).

7.3. Air Force Physical Security Program. The following security procedures will implement AFI 31-101, requirements for C-135 aircraft:

7.3.1. Aircraft will be secured for the appropriate protection level IAW AFI 31-101.

7.3.2. At non-US military installations, the aircraft commander determines the adequacy of local security capabilities to provide aircraft security commensurate with this volume. If he or she determines security to be inadequate, the aircraft will depart to a station where adequate security is available.

7.3.3. The security force must be made aware of all visits to the aircraft.

7.3.4. Security support is a continual requirement and is not negated by the presence of aircrew or ground crewmembers. Security force support terminates only after the aircraft doors are closed and the aircraft taxies.

7.3.5. Ensure COMSEC and other classified materials are turned in at destination and receipts are obtained for COMSEC and classified material if not stored on the aircraft. Combat crew communications or appropriate command and control agency will provide temporary storage for COMSEC and other classified materials during enroute, turnaround, and crew rest stops.

7.3.6. Ensure all modes and codes are zeroized and any classified route of flight is erased before leaving the aircraft, as applicable.

7.4. Enroute Security. The planning agency must coordinate with the execution agency to ensure adequate en route security is available. Aircraft commanders will receive a threat assessment and an enroute security capability evaluation briefing for areas of intended operation prior to home station departure and should request updates from enroute C3 agencies as required. If required, a mission security team (MST) will be assigned to the mission.

7.4.1. The MST normally consists of three US Air Force security forces personnel, but may include more depending on security requirements. The team travels in MEP status and is responsible to the aircraft commander at all times. Aircraft commanders are responsible for the team's welfare (transportation, lodging, etc.). The aircraft commander will ensure MST members receive a full aircrew briefing.

7.4.2. The aircraft commander will assess the local situation and take the following actions as required:

7.4.2.1. Request area security post or patrols from local security forces commensurate with appropriate designated protection level. If local authorities request payment for this service, use AF Form 15, *USAF Invoice*.

7.4.2.2. During short ground times, direct crewmembers to remain with the aircraft and maintain surveillance of aircraft entrances and activities in the aircraft vicinity.

7.4.2.3. If local security forces are unavailable or are unacceptable to the aircraft commander and the crew has not been augmented with a MST, the aircraft commander may waive the flight duty period limits and crew rest requirements and depart as soon as possible for a base considered reliable. Report movement and intentions to the controlling agency as soon as practical. If departure is not possible, the aircrew must secure the aircraft to the best of their ability. In no case will the entire crew leave the aircraft unattended. Crew rest requirements will be subordinate to aircraft security when the airframe may be at risk. The aircraft commander should rotate a security detail among the crew to provide for both aircraft protection and crew rest until relief is available. Request security assistance from the nearest DOD installation, US Embassy, local military, or law enforcement agencies as appropriate.

7.4.3. Unescorted entry is granted to aircrew members and support personnel assigned to the mission who possess their home station AF Form 1199, *USAF Restricted Area Badge*, supported by an EAL or aircrew orders. Aircrew members and assigned crew chiefs are authorized escort authority.

7.4.3.1. Normally, non-US nationals, such as cargo handlers, can perform their duties under escort and should not be placed on the EAL.

7.4.3.2. Personnel not identified in paragraph **7.4.3** must be escorted within the area.

7.4.4. When parking on a secure ramp, the aircraft will normally be left unlocked to allow ground support personnel immediate access. If the aircraft commander determines that security is necessary (professional gear or personal items left on the aircraft), the crew will use only breakable seals (i.e. forestry service "boxcar" seals, safety wire, etc.).

7.4.4.1. If ground personnel need to access a sealed aircraft, they will request permission from local command and control agency, which will log the breach in their logbook and notify the crew at alert time. Ground personnel will reseal the aircraft using similar means.

7.4.4.2. If unauthorized entry is suspected or an unauthorized seal breakage occurs report via the appropriate Air Force-approved form for an aircraft commander's report on services or facilities.

7.4.5. When parking on a non-ACC ramp where the aircraft commander determines that security may be a problem, the aircraft will be sealed or locked using procedures in paragraph **7.5** If further security is required, other measures (SF teams, local security, etc.) will be utilized.

7.5. Detecting Unauthorized Entry. If, in the aircraft commander's judgment, the aircraft needs to be locked and sealed in order to detect unauthorized entry, then:

7.5.1. Use available aircraft ground security locking devices.

7.5.2. Secure the hatches and doors in a manner that will indicate unauthorized entry (e.g., tape inside of doors and hatches to airframe so that entry pulls tape loose).

7.5.3. Close and lock the main crew entrance door.

7.5.4. Wipe the immediate area around lock and latches clean to aid in investigation of a forced entry.

7.5.5. Report any unauthorized entry or tampering to the Office of Special Investigation (OSI), security forces or local authorities, and the C3 agency. Have aircraft thoroughly inspected prior to flight.

Chapter 8

AIR REFUELING (AR)

8.1. AR without Tanker Disconnect Capability. Without tanker disconnect capability means the boom operator cannot trigger an immediate disconnect. Do not attempt further contacts with a tanker after a known loss of tanker disconnect capability. **EXCEPTIONS:** Fuel emergency situations, OPLAN 8010, airborne alert, receiver over water deployment or redeployment and operational missions.

8.2. Manual/Emergency Boom Latching. To complete training or evaluation in manual/emergency boom latching procedures, the following conditions must be met:

8.2.1. An instructor pilot (IP) must directly supervise the receiver activity on board receiver aircraft.

8.2.2. Contacts must be limited to the minimum required.

8.2.3. Receiver AR system must be fully operable. ***Note:*** Receiver pilot and boom operator must coordinate all actions as required by applicable directives when making AR contacts during the situations listed above.

8.3. Prohibited Refueling Maneuvers. When operating in manual/emergency boom latching or when the tanker does not have disconnect capability, the following maneuvers are prohibited:

8.3.1. Practice emergency separation while in contact.

8.3.2. Demonstration of boom envelope limits.

8.4. Practice Emergency Separation.

8.4.1. Prior to actual accomplishment of a practice emergency separation, coordination is mandatory between the tanker pilot, boom operator, and receiver pilot on when the separation will occur and who will give the command for separation.

8.4.2. If separation is initiated from the contact position, the receiver's AR system must be in NORMAL and a boom operator initiated disconnect capability with the receiver must have been demonstrated.

8.4.3. Practice emergency separations may be accomplished with passengers onboard.

8.5. Limits Demonstrations. Limits demonstrations will only be flown under direct IP supervision.

8.6. Receiver Responsibilities.

8.6.1. Squawk normal when separation from the tanker is greater than 3 miles.

8.6.2. Receiver aircraft will maintain two-way radio contact with ATC until cleared to the AR block altitude and established in that block.

8.6.3. Monitor position of AR formation ensuring compliance with ATC clearance or ALTRV.

8.6.4. Receivers will establish communications with the tanker IAW ATP-56(B) *Air-to-Air Refueling* and applicable MDS T.O. Chapter 8, *Air Refueling*, to the maximum extent practical.

8.7. Communications Failure. Aircraft experiencing two-way communications failure during the conduct of aerial refueling will continue flight in accordance with the following procedures:

8.7.1. Squawk code 7600 for at least 2 minutes prior to exiting the track or anchor.

8.7.2. Receiver aircraft that have not received altitude instructions beyond the exit point will exit the track or anchor at the lowest altitude specified in the clearance for the refueling portion of the flight and proceed in accordance with "Procedures for Two-Way Radio Failure IFR-VFR" as set forth in the *En route Flight Information Handbook*.

8.8. MARSA Applicability for AR. MARSA begins between tanker and receivers when the tanker advises ATC that it is accepting MARSA. MARSA is not a recognized ICAO term. If in doubt as to what separation is provided by ATC or what separation the aircrew is responsible for, query the controlling agency.

8.8.1. MARSA ends between tanker and receivers when the tanker advises ATC that tanker and receiver aircraft are vertically positioned within AR airspace and ATC advises MARSA is terminated.

8.8.2. Controller-assigned course or altitude changes prior to rendezvous completion will automatically void MARSA and are to be avoided after MARSA has been declared.

8.8.3. Headings and altitude assignments may be made with tanker concurrence with MARSA remaining in effect once the rendezvous is completed.

8.8.4. Each tanker will keep receiver aircraft within 3 miles after rendezvous completion until MARSA is terminated.

Chapter 9

MISSION PLANNING

9.1. Mission Development/Planning. The squadron (SQ) DO or Detachment Commander (DETCO), if applicable, will actively direct the execution of the unit's flying schedule. The DO will ensure that all operations personnel provide crews with the requisite support to plan and execute mission. The SQ/DO will ensure crews/mission planners have no barriers to mission planning and ensure that every mission is thoroughly planned, briefed, executed, and debriefed. The aircraft commander has overall responsibility for mission material accuracy and review.

9.2. Mission Planning. The SQ/DO will normally choose from two planning profiles when directing the flying operation: mission plan/fly and show and go.

9.2.1. Mission Plan/Fly. Mission planning is normally held the duty day prior to execution.

9.2.2. Show and Go. Show and go profiles should not be used for initial qualification training. Show and go profile missions are planned by a Mission Planning Team (MPT).

9.2.2.1. The MPT will be designated by the SQ/DO.

9.2.2.1.1. All MPT members must be qualified in their crew positions but may be DNIF.

9.2.3. Rivet Joint/Cobra Ball/Combat Sent: The TC has overall responsibility for mission crew mission planning and will ensure close coordination with the AMS.

9.3. Navigational Charts.

9.3.1. Navigational charts will be annotated to reflect:

9.3.1.1. Special use airspace, to include restricted and warning areas, within the altitude structure and within 50 nautical miles (NM) of the planned route of flight. Those portions of the route that are conducted on established airways by reference to FLIP enroute charts and pilot's radio navigation instruments need not be annotated.

9.3.1.2. Emergency airfields sufficient to cover the route of flight.

9.3.1.3. High terrain within 50 NM of planned route of flight and 25 NM of departure and arrival base and minimum safe altitude for the entire route of flight.

9.3.1.4. All applicable AR and mission information.

9.3.2. Navigational charts will be at the navigator's and pilot's station.

9.4. Mission Planning Briefings. A recommended briefing guide is provided by 55 OG/OGV.

9.4.1. Mission Planning Briefing. (Not required for Show and Go) SQ/CC or SQ/DO appointed individuals will brief the crew the day prior to the flight. The AC, CP, Nav, TC, and AMS will attend the mission planning brief, unless excused by the AC.

9.4.2. Crew Briefing. The AC will ensure all crewmembers flying the sortie are briefed applicable information from the 55 OG Briefing Certificate. The AC/TC/AMS will ensure all crewmembers flying the sortie are briefed applicable information. All crewmembers flying the mission will attend unless excused by AC.

9.4.2.1. The mission will be rebriefed when the time interval from the summary briefing to the crew report time exceeds 72 hours. The 72-hour rebrief will cover applicable summary briefing items.

9.4.3. Step Briefing. All crewmembers flying the mission will attend unless excused by SQ/DO or designated representative.

9.4.4. Mission Debrief.

9.4.4.1. The entire crew will conduct a mission debrief, as soon as practical, unless excused by the AC.

9.4.4.2. The maintenance debrief will be conducted as soon as practical after engine shutdown. Attendance at the maintenance debrief is as directed by the AC.

Chapter 10

FORMS PRESCRIBED AND ADOPTED

10.1. Forms Prescribed: No forms are prescribed in this instruction.

10.2. Forms Adopted:

10.2.1. **AF Form 15**, *USAF Invoice, 1 Aug 91,* **AF Form 847**, *Recommendation for Change of Publication, 27 Mar 06,* **AF Form 1199**, *USAF Restricted Area Badge, 1 Nov 86,* **AFTO Form 781**, *ARMS Aircrew/Mission Flight Data Document, 11 Sep 08.*

PHILIP M. BREEDLOVE, Lt Gen, USAF
DCS, Operations, Plans and Requirements

Attachment 1

GLOSSARY OF REFERENCES AND SUPPORTING INFORMATION

References

AFM 11-1, *Glossary of Standardized Terms* (Paper copies available through PDO)

AFPD 11-2, *Aircrew Operations, 19 Jan 12*

AFPD 11-4, *Aviation Services, 1 Sep 04*

AFI 11-202V3, *General Flight Rules, 22 Oct 10*

AFI 11-202V3 ACC Sup, *General Flight Rules, 5 Apr 09*

AFI 11-215, *Flight Manuals Program (FMP), 22 Dec 08*

AFPAM 11-216, *Air Navigation, 1 Mar 01*

AFI 11-220, *Reconnaissance Flight Rules and Procedures, 1 Dec 94*

AFI 11-401, *Aviation Management, 10 Dec 10*

AFI 13-207, *Preventing and Resisting Aircraft Piracy (Hijacking), 15 Apr 94*

AFI 31-101, *The Air Force Physical Security Program, 1 Mar 03*

AFI 33-360, *Publications and Forms Management, 18 May 06*

ACCH 33-152, *ACC Aircrew Communications Handbook (OPR: ACC AOS/AOCP), 9 Apr 97*

AFMAN 33-363, *Management of Records, 1 Mar 08*

AFI 36-3003, *Military Leave Program, 20 Oct 05*

AFJI 48-104, *Quarantine Regulations of the Armed Forces, 24 Jan 92*

ATP-56(B), *Air-to-Air Re-fuelling, 24 Jun 08*

AC 90-100A, *U.S. Terminal and En Route Area Navigation (RNAV) Operations, 2 Mar 09*

DOD 4500.54-G, *DOD Foreign Clearance Guide (FCG), 16 Jul 09*

DOD Directive 7730.57, *Aviation Career Incentive Act of 1974 and Required Annual Report*

DOD Flight Information Publication, *Area Planning Number 2 (AP/2)*

DOD Flight Information Publication, *General Planning (GP)*

Executive Order 9397

Joint Publication 1, *Doctrine for the Armed Forces of the United States*

Joint Publication 1-02, *DOD Dictionary of Military and Associated Terms*

Public Law 92-204, (*Appropriations Act for 1973*)

Public Law 93-294, (*Aviation Career Incentive Act of 1974*)

Public Law 93-570, (*Appropriations Act for 1974*)

Title 37 U.S.C. 301, *Incentive Pay: Hazardous Duty*

Title 37 U.S.C. 301a, *Incentive Pay: Aviation Career*

T.O. 1C-135(RC)(I)-1, *In-flight Data*

T.O. 1C-135-38, *Aircraft Structural Integrity Program*

Adopted Forms

AF Form 15, *USAF Invoice*

AF Form 847, *Recommendation for Change of Publication*

AF Form 1199, *USAF Restricted Area Badge*

AFTO Form 781, *ARMS Aircrew/Mission Flight Data Document*

Abbreviations and Acronyms

ALTRV—Altitude Reservation

AR—Air Refueling

C3—Command, Control and Communications

CCTS—Combat Crew Training School

CFIC—Central Flight Instructor Course

EWO—Emergency War Order

GPWS—Ground Proximity Warning System

LA—Low Altitude

MARSA—Military Accepts Responsibility for Separation of Aircraft

OFT—Operational Flight Trainer

OPLAN—Operation Plan

OPORD—Operations Order

OSOS—Wing Scheduling

OVRD—Override

RCR—Runway Condition Reading

SATCOM—Satellite Communications

SOCS—Strategic Operating Conference System

T.O.—Technical Order

Terms

Additional Crewmember—Individual possessing valid aeronautical orders, who is not required to perform in-flight duties and is assigned in addition to or authorized to accompany the normal crew complement required for that mission according to **Chapter 3** of this volume. ACMs may not log flying time unless specifically authorized in this volume.

Administrative Control—Direction or exercise of authority over subordinate or other organizations in respect to administration and support, including organization of Service forces, control of resources and equipment, personnel management, unit logistics, individual and unit training, readiness, mobilization, demobilization, discipline, and other matters not included in the operational missions of the subordinate or other organizations. Also called **ADCON**.

Augmented Crew—Basic aircrew supplemented by additional qualified aircrew members to permit in-flight rest periods.

Combatant Command—A unified or specified command with a broad continuing mission under a single commander established and so designated by the President, through the Secretary of Defense and with the advice and assistance of the Chairman of the Joint Chiefs of Staff. Combatant commands typically have geographic or functional responsibilities.

Combatant Command (command authority)—Nontransferable command authority established by title 10 ("Armed Forces"), United States Code, section 164, exercised only by commanders of unified or specified combatant commands unless otherwise directed by the President or the Secretary of Defense. Combatant command (command authority) cannot be delegated and is the authority of the combatant commander to perform those functions of command over assigned forces involving organizing and employing commands and forces, assigning tasks, designating objectives, and giving authoritative direction over all aspects of military operations, joint training, and logistics necessary to accomplish the missions assigned to the command. Combatant command (command authority) should be exercised through the commanders of subordinate organizations. Normally this authority is exercised though subordinate joint force commanders and service and/or functional component commanders. Combatant command (command authority) provides full authority to organize and employ commands and forces, as the combatant commander considers necessary to accomplish assigned missions. Operational control is inherent in combatant command (command authority). Also called **COCOM**.

Critical Phases of Flight—Takeoff, air refueling, approach to landing, landing, flight maneuvers that require direct instructor supervision, and designated formal training unit (FTU), CTS or CFIC only maneuvers. Approaches to planned missed approaches and air refueling rendezvous are not considered critical phases of flight. This definition applies only to this AFI.

Delay—Failure of an aircraft to depart due to maintenance or operational reasons at the scheduled departure time plus 30 minutes.

Execution—Command-level approval for initiation of a mission or portion thereof after due consideration of all pertinent factors. Execution authority is restricted to designated command authority.

Experienced Crewmember—Requirements listed in AFI 11-2RC-135V1, *Aircrew Training*. Individual must also be designated "experienced" by the squadron commander.

Fuel Reserve—Amount of usable fuel carried beyond that required to complete the flight as planned.

Ground Time—Interval between arrival in the blocks and next takeoff time.

HHQ Missions—Missions executed at or above the NAF. HHQ missions include: deployment, redeployment, reconnaissance operations, Open Skies Joint Trial/Treaty Flights, ORIs, and PDM

input/output. Exercise missions flown in support of HHD exercise, example GREEN FLAG, COPE THUNDER, FLEETEX, etc., are also considered HHQ missions as well as exercise support to classified users or executed as directed on an operational or exercise Air Tasking Order.

Initial Level-Off—The time (Greenwich Mean Time [GMT]) the aircraft completes a published departure (i.e. SID) or radar vector departure and reaches planned or final en route altitude.

Mission—Movement of aircraft from a designated point of origin to a designated destination as defined by assigned mission identifier, mission nickname, or both in the schedule, mission directive, OPORD or OPLAN.

Operational Control—Transferable command authority that may be exercised by commanders at any echelon at or below the level of combatant command. Operational control is inherent in combatant command (command authority). Operational control may be delegated and is the authority to perform those functions of command over subordinate forces involving organizing and employing commands and forces, assigning tasks, designating objectives, and giving authoritative direction over all aspects of military operations and joint training necessary to accomplish missions assigned to the command. Operational control should be exercised through the commanders of subordinate organizations. Normally this authority is exercised through subordinate joint force commanders and service and/or functional component commanders. Operational control normally provides full authority to organize commands and forces and to employ those forces, as the commander in operational control considers necessary to accomplish assigned missions. Operational control does not, in and of itself, include authoritative direction for logistics or matters of administration, discipline, internal organization, or unit training. Also called **OPCON**.

Over-Water Flight—Any flight that exceeds power-off gliding distance from land.

Primary Position—Any seat in which you can log "Primary flight time" per AFI 11-401: **—**Log primary flight time only when performing duties at a duty position established for that specialty. (i.e. Instructor seats and crew rest seats are not considered primary positions, with the exception of ASE's).

Scheduled Takeoff Time—Takeoff time as established in the schedule or operations order (OPORD).

Show and Go—Sortie in which the mission planning is performed by a mission planning team, while the crew shows at the step brief, takes the mission planned information and paperwork and flies the sortie.

Tactical Control—Command authority over assigned or attached forces or commands, or military capability or forces made available for tasking, that is limited to the detailed and, usually, local direction and control of movements or maneuvers necessary to accomplish missions or tasks assigned. Tactical control is inherent in operational control. Tactical control may be delegated to, and exercised at any level at or below the level of combatant command. Also called **TACON**.

Tasked Squadron—The squadron that is scheduled to fly the RELAY.

Training Mission—Mission executed at the unit level for the sole purpose of aircrew training for upgrade or proficiency. Does not include operational missions as defined in this volume.

Note—See Joint Publication 1-02, *DOD Dictionary of Military and Associated Terms*; and AFM 11-1, *Air Force Glossary of Standardized Terms*, for complete listing.